



Tree Canopy Policy

September 15, 2023

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Introduction

The City of Wichita tree canopy is vital to the health and wellbeing of the city's residents. The purpose of the City of Wichita Tree Canopy Policy is to establish principals and guidelines to:

- Protect the existing tree canopy.
- Strategically expand the tree canopy.
- Ensure a diverse tree canopy.

Background

The City of Wichita recognized gaps in the city's tree related activities such as planting, removal, and public communication and initiated a team to create a formalized tree canopy policy to address those gaps. The team was comprised of city Forestry, Landscaping, Public Works Department, and Park and Recreation Department experts. They analyzed current best practices and procedures to draft a working tree canopy policy. Initial policy drafts were shared with regional experts.

Meanwhile, the city's Sustainability Integration Board partnered with a NASA Langley research team to evaluate the relationship between heat, trees, and environmental justice in the City of Wichita. The findings are published in the [Environmental Justice & Climate Change in Wichita, Kansas](#) report.

The application of environmental justice addresses the inequitable distribution of environmental benefits, such as the city's tree canopy, and negative impacts, such as the burdens of extreme heat. The NASA report identified seventeen high risk census tract areas in the city that are vulnerable to the negative effects of extreme heat. The city's team of experts incorporated policy to address the inequitable distribution of the city's current tree canopy in these high-risk areas. [Appendix C](#) displays a map of the seventeen tracts identified in the report.

Application

This policy will apply to public projects on city property and city rights of way. It will apply only to projects not yet approved by the city council following the publishing of this policy.

Tree Planting Policy

1. The city will prioritize tree planting in the seventeen high-risk census tracts identified in the NASA Environmental Justice and Climate Change report.
 - a. The first initiative will take place in November and December of 2023, in Census Tract 4, located in Districts I and VI. See [Appendix C](#) for the Tract 4 location and [Appendix A](#) for more details about the initiative.
2. The city will combat heat islands by increased planting in city rights of way.
 - a. When specific parks are scheduled for tree planting, the nearest right of way areas will be prioritized for planting. The Parks and Recreation Department will continue to observe forestry best practices when scheduling the tree planting areas. Individual resident tree requests currently take about one year to complete. If the city deems it necessary to plant more trees in the at-risk census tract areas, those trees can be shifted from individual requests.
3. In all right of way areas, the city will communicate planned tree planting activities and initiatives, utilizing multiple communication channels.
 - a. This may include social media announcements, video tutorials, and “new trees coming” signs similar to the new-streets signs used for street projects.
4. The city will actively explore means and methods to increase tree planting.
 - a. These may include but are not limited to grants, partnerships, and planting trials and studies.
 - b. The city’s current Bareroot Three-Year Trial Project is an innovative pilot project to obtain more trees. In this project, smaller trees are purchased (costing less than more mature trees) and then grown by the city in a way that greatly increases each tree’s root ball. The goal for this project is to grow trees that are better acclimated to the local environment and that will grow rapidly and survive longer than the current average for transplanted trees. More details about this project are available in Appendix A.
5. The city will explore ways to promote the planting and maintenance of trees by residents.

- a. Tree giveaways and educational events or promotions may be utilized to achieve this.
 - b. This might include future tree giveaways of smaller trees that are grown by the city. These could be given to residents to plant on their properties, with priority given to those in at-risk census tract areas. Follow-up and/or after care could also be provided to the at-risk census tract areas. If only a fraction of trees survives, it would still increase the tree canopy by a significant amount.
- 6. The city will follow best practices to ensure the health of the tree canopy, including the planting of diverse tree species.
 - a. When selecting trees to plant, the city's recommended tree list will be used unless otherwise approved by Forestry and/or a city Landscape Architect in writing. The list includes diverse species of trees that are particularly suited to the local climate. See [Appendix E](#) for the city's recommended tree list.
- 7. The city will develop performance metrics to measure the success of this policy and for planning purposes.
 - a. The city will track tree planting data to measure the effects of the tree planting programs with regard to vulnerable census tracts, equity within the districts, and survival rates. Metrics will be tracked for:
 - Number of trees planted
 - Survival rate of balled-and-burlapped trees
 - Survival rate of bare-root trees
 - Number of trees planted in vulnerable census tracts
 - Species of trees planted
 - Cost of tree planting program
 - Cost of annual maintenance of three-year-old and younger trees
- 8. The city will present a report annually to the Board of Park Commissioners that will include the number, species, and location of trees, including for CIP projects, that have been planted in the past year.

- a. The Forestry division will present an annual report to the Board of Park Commissioners each November. The report will include the metrics for that year's tree maintenance program.
 - b. A written report will be submitted to the City Council annually, in December.
9. The city will develop and maintain a recommended tree list, which should be used for all related ROW and CIP projects. The list may be updated periodically as the city's canopy, growing conditions and industry changes occur. Forestry staff may deviate from this list to conduct trials and studies.

[Appendix A](#) includes details of current planting planning processes and an implementation plan that incorporates the policy points described.

Tree Canopy Policy for CIP Projects

10. When designing capital improvement plan (CIP) projects, the city will retain and protect as many trees as possible within the scope of the project. Retention measures will not be taken for trees that are of invasive species.
11. Significance of a project's impact to the tree canopy will be evaluated on a project-by-project basis.
12. Criteria for significance includes but is not limited to the following conditions:
 - Potentially ten or more trees over eight inches in diameter at breast height (DBH) are present, and twenty-five percent or more of those trees will be removed.
 - When there are less than ten trees present, and removal is necessary for any tree that is twenty-eight inches DBH either in the project boundaries or has a root protection zone that could be adversely affected.
 - If it is unclear whether any of these criteria have been met, a city landscape architect/designer and a city Forestry expert should be consulted.

13. These projects will have a “significant tree canopy impact” designation. Invasive tree species will not be calculated as a portion of significant tree canopy impact.
14. Each City of Wichita CIP project that has a significant tree canopy impact designation will include a designated landscape architect/designer and a designated internal landscape architect/designer and a Forestry expert on the project team. These experts will ensure that the proposed and approved designs comply with tree canopy policies and best practices. Engineering and Forestry staff will set interdepartmental communication expectations so that project timelines are not negatively affected.
15. The Forestry and landscape experts on the city’s project team will work with the consultant and/or contractor to identify any significant tree additions or removals.
16. When a CIP project begins, if it is known that significant tree modifications or additions will be required, the project team will present a general idea of the tree-related modifications at a District Advisory Board (DAB) meeting. When possible, this communication will take place during the initial concept presentation.
17. Additional notification will occur when fifty to eighty percent of the design is complete. The communication will utilize multiple channels to ensure maximum opportunities for public notification, including online tree plan availability.
 - a. It is recommended that the Communications team be consulted to maximize communication avenues. Communication should include an easy-to-read map showing the tree plan. The communication should target those residents who are not likely to go to District Board Meetings.
18. When a significant tree modification or addition is identified and is presented at a DAB meeting, individual property owners with property adjacent to the project location will be notified, at minimum, by mail or by placing a door hanger at the property.

19. When possible, the city's designated landscape architect/designer or Forestry expert will be present at the DAB meeting to explain the changes and reasons for the changes, and to answer any questions the public has regarding the changes.

- a. The door hanger should include a URL for accessing the project's plans and documents online. It is advised to include plans, DAB information, and instructions for accessing DAB meeting recordings.

20. When the design plans are fully complete, if the tree plan has changed, the changes will be published on social media and adjacent property owners will be notified.

21. When trees need to be planted, based on arterial and right of way standards, the city will make every attempt to plant trees in the project area. When doing so is not possible, the Forestry and landscaping project team members will determine the best place to plant the trees that would otherwise have been planted in that area.

- If possible, trees will be planted within approximately one-quarter mile of the project site. If there are no suitable areas within approximately one-quarter mile, then planting will occur in the nearest vulnerable census tract, as identified in the NASA DEVELOP Wichita Climate report.
- When it is not possible to plant trees following these criteria during the immediate project duration, tree planting funds, per project bid, shall be available to be used at the appropriate time as determined by the city Arborist.

22. The city will retain and protect as many trees as possible in the scope of a project.

- a. The city will develop a service operation plan to include the following:
 - Root zone protection
 - Construction equipment materials storage plan to minimize soil compaction around trees
 - Measures to protect tree trunks

[Appendix B](#) includes details of how this could impact current CIP projects. See [Appendix D](#) for a flowchart that illustrates the CIP tree planning process.

Tree Canopy Policy for Non-CIP Projects

23. The city will retain and protect as many trees as possible when planned utility maintenance takes place in the city rights of way.
- a. The city will develop a service operation plan to include the following:
 - Root zone protection
 - Construction equipment materials storage plan to minimize soil compaction around trees
 - Measures to protect tree trunks
24. Prior to any city utility maintenance work that may affect existing trees or a tree root zone within the street right of way, the project supervisor will notify the Forestry division. A Forestry expert will consult on and or inspect the tree(s) prior to the maintenance activity and develop a tree protection plan if appropriate.
25. If a tree must be removed as a result of the maintenance activity, the personnel performing the maintenance will notify adjacent property owners prior to the maintenance activity.
- a. The notification may include any of the following:
 - Door hangers
 - Personal notification
 - Direct mail
 - District Advisory Board meeting presentations
26. When unplanned corrective actions are necessary to provide for public safety, for example during a water main break, the city's emergency management policies will be followed. If a tree needs to be removed, an attempt will be made to notify adjacent property owners, but the removal will not be delayed due to the nature of the public hazard.
27. The management of hazardous trees will not be altered by this policy.

Appendix A: Tree Planting Implementation Plan

Current Strategy

When preparing for a planting season, Forestry staff evaluate a multitude of factors that influence decisions regarding the placement of trees. The number of purchased balled and burlapped (B&B) trees is limited by the allocated funds available. In the past decade, this figure has been \$175,000.00. Through the effects of inflation, the buying power of these dollars has decreased significantly. Just under 1,000 trees can be purchased with these funds.

The Tree Inspector charged with locating planting opportunities evaluates a selection of the 143 parks. These have been grouped into eight localized areas that provide organization for rotating planting efforts in parks and keeping water truck efforts more efficient. Neighborhoods surrounding the current year's parks are also evaluated for planting opportunities.

Individual Requests

Throughout the year, citizens request trees to be planted in the street right-of-way (ROW) adjacent to their property. With the mutual understanding that the after-care is the responsibility of the property owner, up to 15% of the overall tree inventory planted will be allocated to individual requests. Location within the city does not play a role in the decision to fulfill an individual request. Requests are fulfilled on a first-come, first-served basis and any unfilled requests are held over to the following planting season.

Replacements

For the first two seasons after a planting season, inspections are performed and replacement needs are assessed and noted. Appropriate replacements are made which can account for approximately 5-15% of the overall tree order depending on replacement needs.

Parks

As mentioned, parks are grouped by location into eight sections. Parks in the current year's rotation are evaluated for planting opportunities. No less than 20% and typically approximately 40% of the total tree order is allocated to park planting.

Neighborhoods

Neighborhood planting differs from individual requests in that the after-care is retained by Forestry. To justify allocation of water truck resources to a neighborhood, planting a minimum of 30% of the tree order needs to be located within the targeted neighborhood.

Neighborhood planting requires notification via door hangers to the property owners. The hangers state that we intend to plant a tree in the ROW adjacent to their property and includes an opportunity to opt out of that planting.

Upcoming Strategy beginning with the 2023/24 planting season:

While keeping with the general strategy for tree planting as just described, changes will require a reduction in the number of trees allocated to replacements, requests, and parks in general. The trees available after these reductions will be allocated to the nearest heat island tract identified through the NASA Develop study data. In total, 20-30% of the total tree order will be allocated to heat island mitigation.

Reports of tree survival rates, replacement rates, and costs will be prepared and delivered to the Park Board as described in the policy. Total tree plantings and species diversity will be included in the reports.

Strategies in Development

Forestry staff is completing a multi-year pilot program to determine the efficacy of purchasing sapling trees (2-3 year old stock) as bare root stock delivered in spring, placed in pea gravel for the summer, and planted in the ROW in the fall. This process of using a gravel bed to 'heel' in bare root stock will, if properly cared for, yield a robust root system by the fall. The theory is that the robust root system will eliminate or greatly reduce planting shock, tree mortality due to planting, as well as reducing the maintenance level of after-care/watering cycles.

This program is showing signs of significant success but is not yet ready to be the primary method of tree planting. For reference, the saplings that have been purchased for this gravel bed project are one third the price of a typical B&B tree.

Forestry purchased just under 1,000 1-year-old bare root sapling trees which are less than \$4.00 each and have placed them in the gravel beds. In the fall of 2023, Forestry is partnering with a volunteer group to plant the trees which will create a miniature forest on park land that is adjacent to one of the identified heat island tracts. Success of this project may pave the way for similar strategies in the future.

Another possibility for the 1-year-old saplings is to utilize them in tree giveaway programs that target the residential areas within the heat island tracts. This could be accomplished through resources from Forestry and partnering with volunteer groups to deliver the trees or pass them out at a drive-through style tree giveaway event.

Appendix B: Tree Canopy Policy CIP Implementation Plan

Potential 2024 Capital Improvement Program Projects

This implementation plan provides insight into potential 2024 Capital Improvement Program (CIP) projects the Tree Canopy Policy may impact. These projects have not begun design.

Minimal additional costs are anticipated to be associated with the implementation of this policy to CIP projects. Subjects such as demolition, grading, and landscape improvements are commonly discussed during the design phase of CIP projects.

Added discussion and action around the elements within the Tree Canopy Policy are not expected to be far beyond common procedures currently exercised on applicable projects.

Potential impacted 2024 CIP projects:

Unless otherwise noted all projects are for design only

Street Improvements

- Arterial Sidewalks (*annual design & construction*)
- Bikeways and Bike Improvements
- Douglas, Washington-Grove
- Harry, 127th St. E.-143rd St. E.
- Maple, 135th St. W.-151st St. W.
- Riverbank Improvements
- Sidewalk Maintenance (*annual design & construction*)

Public Facilities

- City ADA Improvements (*annual design & construction*)
- Cultural Facilities Improvements (*annual design & construction*)
- Fire Stations – Replacements (*design & construction*)
- Police Patrol Stations (*design & construction*)

Parks

- Finlay Ross Park
- Park Facility Enhancements (*annual design & construction*)
- Pawnee Prairie Park Facility Improvements (*design & construction*)
- Playground Rehab/Dev (*annual design & construction*)
- Watson Park (*design & construction*)

Stormwater Utility

- W Branch, Dry Creek – Bleckley

Utility Sys. Planning - Sewer

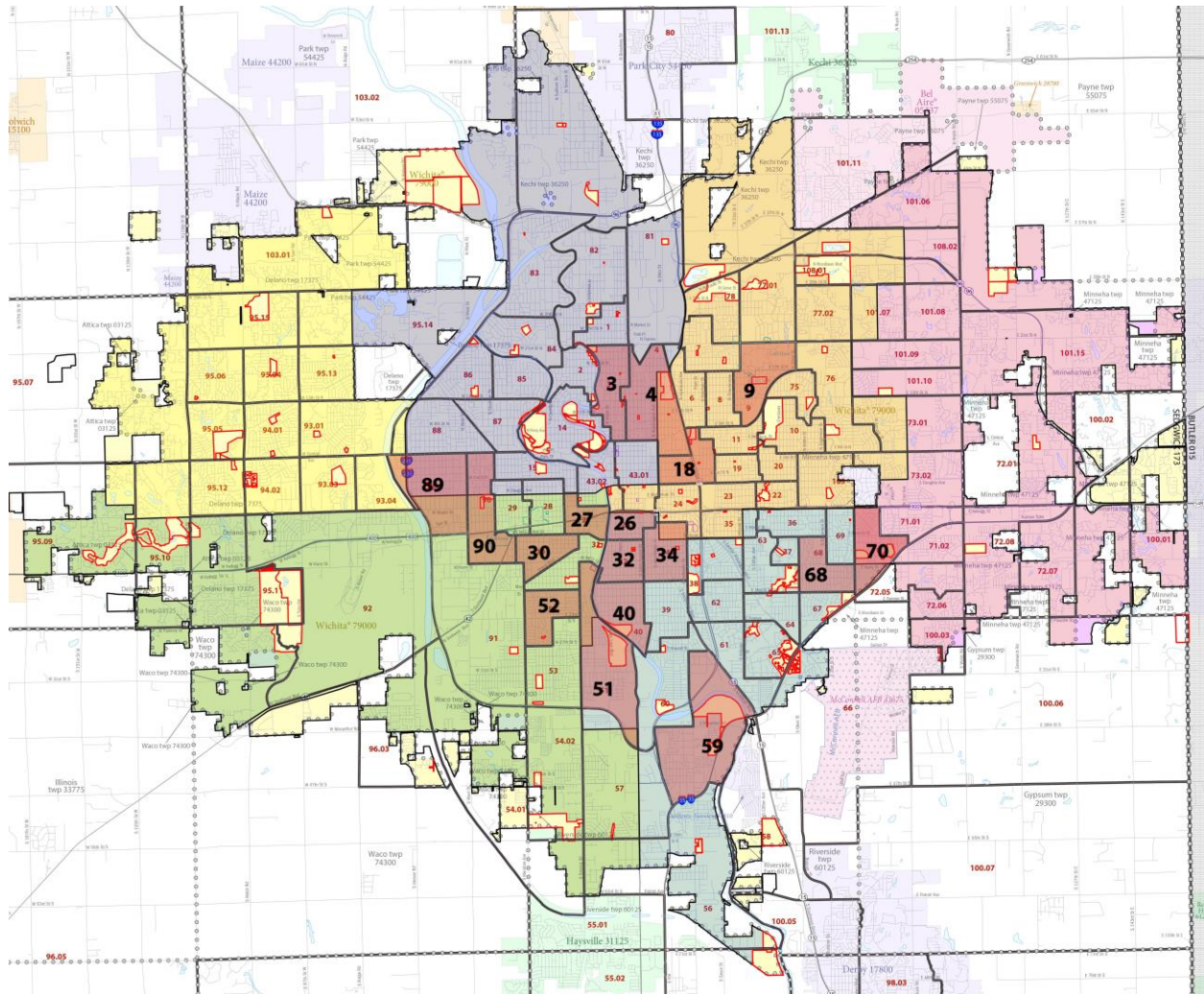
- Collection Mains Replacement (*design & construction*)
- East FMC Interceptor (*design & construction*)
- Mains for Future Development (*design & construction*)

Utility Sys. Planning - Water

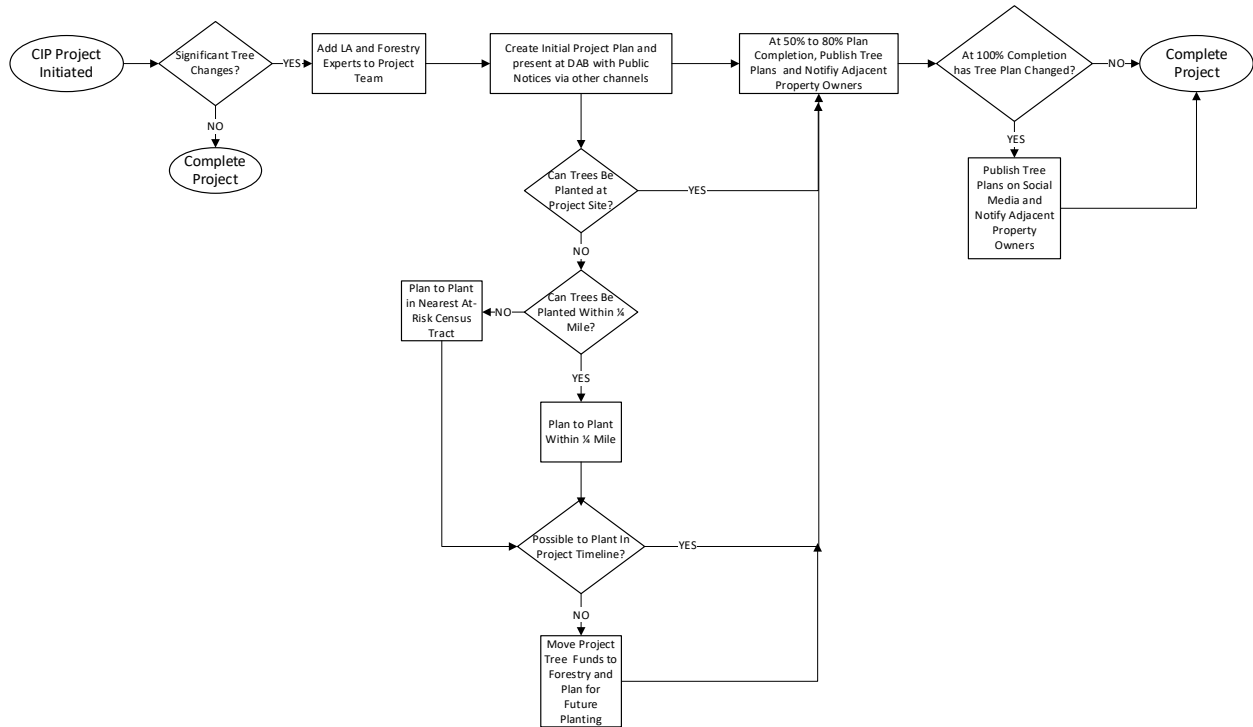
- DIST Arterial Water Mains (*design & construction*)
- DIST Dead End Mains Elimination (*design & construction*)
- DIST Distribution Mains Replacement (*design & construction*)
- DIST Mains for Future Development (*design & construction*)
- Public Water Supply Plan
- WF PH I River Revetment
- Water Supply Rehab Projects

Appendix C: High-Risk Census Tracts

This map shows the seventeen Highly Vulnerable Census Tracts identified in the Environmental Justice & Climate Change report.



Appendix D: Capital Improvement Project Tree Plan Flowchart



Appendix E: City of Wichita Recommended Tree List

Last updated: August, 2023

SMALL DECIDUOUS TREES

(usually under 20 feet at maturity)

- **Amur Maple** (*Acer tataricum* subsp. *ginnala*) Cultivars: 'Compactum'; 'Flame'. Seeds readily.
- **Tatarian Maple** (*Acer tataricum*)
- **Eastern Redbud** (*Cercis canadensis*) var. *alba*; Cultivars: 'Forest Pansy' and 'Merlot'
- **Oklahoma Redbud** (*Cercis canadensis* var. *texensis* 'Oklahoma')
- **Chinese Fringetree** (*Chionanthus retusus*) Cultivar 'Tokyo Tower'
- **Flowering Crabapple** (*Malus* spp.)
- **Smoketree** (*Cotinus* spp.) American Smoketree (*C. obovatus*) and Red Smoketree varieties (*C. coggygria*).

MEDIUM DECIDUOUS TREES

(usually 20 to 40 feet at maturity)

- **Trident Maple** (*Acer buergerianum*).
- **Hedge Maple** (*Acer campestre*)
- **Shantung Maple** (*Acer truncatum*) Hybrids also acceptable: Norwegian Sunset; Pacific Sunset (hybrids with Norway Maple).
- **Goldenrain Tree** (*Koelreuteria paniculata*)
- **Osage Orange** (*Maclura pomifera*) Cultivars: 'Wichita' and 'Whiteshield'. Use fruitless and thornless cultivars only.
- **Flowering Crabapple** (*Malus* spp.)
- **Chinese Pistache** (*Pistacia chinensis*). Cultivar 'Keith Davey' is seedless. Use named MALE cultivars only.
- **Chinkapin Oak** (*Quercus muehlenbergii*)
- **Japanese Tree Lilac** (*Syringa reticulata*) Cultivar: 'Ivory Silk'. Typically a smaller tree

LARGE & VERY LARGE DECIDUOUS TREES

(usually 40 feet and larger at maturity)

- **Sugar Maple** (*Acer saccharum*) Caddo (seedling). Cultivars: 'Legacy'.
- **Common Hackberry** (*Celtis occidentalis*) Cultivar Prairie Sentinel is columnar.
- **Ginkgo** (*Ginkgo biloba*) Cultivars: 'Autumn Gold'; 'Princeton Sentry' is narrow pyramidal form. Use named MALE cultivars only.
- **Kentucky Coffee Tree** (*Gymnocladus dioica*) Seedless is acceptable. Use named MALE cultivars only for street tree use.
- **London Planetree** (*Platanus x acerifolia*) Cultivar 'Bloodgood'. 'Exclamation!' has disease resistance and strong central leader.

- **Sawtooth Oak** (*Quercus acutissima*)
- **White Oak** (*Quercus alba*)
- **Swamp White Oak** (*Quercus bicolor*)
- **Texas Red Oak** (*Quercus buckleyi*)
- **Shingle Oak** (*Quercus imbricaria*)
- **Bur Oak** (*Quercus macrocarpa*) Large fruit can be a nuisance.
- **English Oak** (*Quercus robur*) Many columnar cultivars acceptable: *Crimson Spire*; *'Fastigiata'*; *Kindred Spirit*; *Regal Prince*
- **Red Oak** (*Quercus rubra*)
- **Shumard Oak** (*Quercus shumardii*)
- **Willow Oak** (*Quercus phellos*)
- **Baldcypress** (*Taxodium distichum*) Cultivar *'Frio River'* has excellent pH tolerance. *'Shawnee Brave'* has upright pyramidal growth..
- **American Linden** (*Tilia americana*) Cultivar *'Redmond'* pyramidal form.
- **Littleleaf Linden** (*Tilia cordata*) More rounded. Cultivar: *'Greenspire'* (pyramidal).
- **Silver Linden** (*Tilia tomentosa*) *'Sterling'* is an improved cultivar.
- **American Elm** (*Ulmus americana*) Cultivars: *'Jefferson'*; *'New Harmony'*; *Prairie Expedition*; *'Princeton'*. Choose disease-resistant cultivars.
- **Elm hybrids** (*Ulmus*) *Accolade*; *Danada Charm*; *Frontier*; *'New Horizon'*; *'Patriot'*; *'Prospector'*.
- **Lacebark Elm** (*Ulmus parvifolia*). Also acceptable: cultivars *Athena*; *Allee*; *'Emerald Prairie'*; many others.
- **Japanese Zelkova** (*Zelkova serrata*) Cultivars *'Green Vase'*, *'Halka'*, and *'Village Green'* have improved growth habit. *'Musashino'* is columnar.

EVERGREEN TREES

- **Incense Cedar** (*Calocedrus decurrens*)
- **Arizona Cypress** (*Cupressus arizonica*) Cultivars *'Blue Ice'*; *'Blue Pyramid'*; and *'Cooke Peak'*
- **Eastern Red Cedar** (*Juniperus virginiana*) Also acceptable: cultivar *'Canaertii'* (irregular form); *'Taylor'* (upright growth) many others also.
- **Southern Magnolia** (*Magnolia grandiflora*) Cultivars *'Bracken's Brown Beauty'* and *'Edith Bogue'* are the most cold hardy.
- **Pinyon Pine** (*Pinus edulis*)
- **Loblolly pine** (*Pinus taeda*)
- **Oriental Arborvitae** (*Platycladus orientalis* or *Thuja orientalis*)

Note: Only internal City of Wichita planting efforts may deviate from this list to study and understand new cultivars and species. Any trees proposed to be used beyond this tree list shall require approval from the City of Wichita Park & Recreation Department's Forestry Division